



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Explorations of the Permian of Texas and the Chalk of Kansas, 1918.

CHARLES H. STERNBERG.

The splendid skeleton of *Dimetrodon gigas* I collected in 1917 and sold to the United States National Museum has been mounted at last, and is one of the world's famous specimens. I do not know of a more perfect single individual. It came from the famous Craddock quarry discovered by the late Doctor Williston's assistant, Mr. Miller. Through the kindness of Mr. Craddock, the owner of the quarry, I not only collected there in 1917, but last year. Owing to the fact that the quarry is now covered with about twenty feet of earth and clay of the toughest character the work was very difficult and I was obliged to employ a man with a heavy team of horses, with plow and scraper. I succeeded in securing many more or less perfect skeletons of several species. Unfortunately, none were as perfect and capable of making into a fine open mount as the National Museum specimen. This quarry is in the face of a hill. As I have gone deeper and deeper into the hill the manner in which the animals were stranded here becomes more and more apparent. On the very bottom of the quarry are innumerable bones of very small animals, Seymoriaria and other batracians, etc. They are usually scattered and are free from matrix, consequently they are among the rarest of Permian vertebrates that have not been injured by the encrusting silica that covers all the other bones at higher levels, and which is so difficult to remove. The National Museum specimen came from near this level. Above are about four or five feet in the heavy, fine-jointed red clay. Though water has filtered and coated all the bones with silica, I found several more or less perfect skeletons. Often the entire column, except the tail, with enormous spines were present; sometimes the arches and limbs, as in the best specimen we found, discovered by my son, George F. The longest spine of this individual was four feet. Most of the column and tail were present. The skull was disarticulated. The arches seemed present. Many of the spines, however, were twisted and interwoven, all the bones covered with a thin coating of silica. As I understood Doctor Gilmour, it took two preparators a year to prepare and mount the National Museum specimen. You will realize something of the labor it will take to prepare this one. This, with my whole collection from the Craddock quarry, I sold to the American Museum.

From Seymour, Tex., my boys, George and Levi, drove my car to the Rock creek Horse quarry, near Tulia, Tex., but the formidable mass of sand that lay above it induced them to turn their Ford truck northward, and I joined them in the Kansas chalk in Logan county, on Butte creek. I was so fortunate as to find a fine tylosaur skeleton the second day in the field. There were twenty-one feet of the skeleton present in fine chalk. The complete skull was crushed laterally. Nearly the complete front arches and limbs were present, as was also the pelvic bones and both femora. All the vertebræ to well into the caudal region beyond the lateral spines were continuous, with the ribs in the dorsal region. Between the ribs was a large part of a huge plesiosaur with many half-digested bones, including the large humeri part

of the coracoscapula, phalanges, vertebræ, and, strangest of all, the stomach stones, showing that this huge tylosaur, that was about twenty-nine feet long, had swallowed this plesiosaur in large enough chunks to include the stomach. How powerful the gastric juice that could dissolve these big bones! This specimen I sent to the United States National Museum. A little *Clidastes* skeleton found by my son Levi proves not only to be new, but possessed of remarkable characters not yet described. I will only in a general way give you an idea of this lithe sea lizard. It is $8\frac{1}{2}$ feet long, skull 14 inches long. Levi in preparing the skeleton restored the maxilla, jugals, nasals and prosquamosals, with the epds of some of the teeth; also four of the cervical and one dorsal vertebra. These had been destroyed by incrusting gypsum. The bifurcated coracoids, 2 inches wide, are large compared to the scapulæ, which are only $1\frac{1}{4}$ inches wide. The most remarkable thing about this mosasaur is the fact that the humeri and femora have distinct, round heads, similar to those of mammals. Further, all the *Clidastes* humeri I know are broad, square bones, nearly as broad as they are long. In this specimen the humerus is $2\frac{1}{4}$ inches, while it is only $1\frac{1}{4}$ inches wide in the widest part; the same with the femur. The front paddle is 7 inches long to ends of first row of phalanges; width only $2\frac{1}{2}$ inches. The column is continuous to the pygals, where they are scattered. The pelvic arches and paddles are only partially preserved. The caudals are beautifully preserved, with a high fin in the last half of the column; the chevron well preserved, with all of them anchylosed to the centra of the vertebræ. The only genus among the mosasaurs where this is the case. They usually are distinct, the proximal heads fitted snugly into little basins hewn out, as it were, from the centra of the vertebræ. I own this new *Clidastes*.

We secured two specimens of *Platecarpus coryphæus* of exactly the same size. One found by Levi Sternberg has much of the head, the column, and ribs to the pygals. The second, found by George F. Sternberg, has a very complete tail to the very end, and the pelvic arch and one paddle; other specimens furnished the rest of the paddles. We have mounted this as a slab specimen, and makes a skeleton 17 feet long—very impressive, indeed.

George F. Sternberg found also a very fine skull and most of the skeleton of a small *Pteranodon*. The skull is only 27 inches long; missing, only the crest and front of the mandibles. Both coracoscapula are present, with one humerus, radius, ulna, carpal joint, and most of one elongated finger. Both hind limbs and several vertebræ and ribs. This, when prepared, will be one of the few fine skulls of these flying reptiles. We secured also a very fine *Portheus*, complete, nearly, except the ends of the ribs, the dorsal and caudal fins, and 18 caudal vertebræ. These we have restored; and we have a fish 13 feet long, with spread of tail fins of 35 inches. These are the chief discoveries of my last season's labor in the Permian of Texas and the chalk of Kansas.